

# Work Order ID 75907

November-02-11 10:10:20 AM

**\*75907\***

**U/R**

Page 1

Item ID: D412-742-043 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Float Skidtube  
 Start Date: 01/11/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 15/11/2011 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: M.C.J. Date: 11/11/02 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D3391	H U/R <u>CP 11.11.07</u>								

100		0.00							
<b>*100*</b>	DOCUMENT CONTROL								
DC	Memo	0.00							

Document Control

If D412-742-043 is a W/O on it's own,  
 Photocopy bluefile and create labels per PPP D412-742-043 CHG004

CHG 004  
CP 11.11.08

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Picklist Print

November-02-11 10:10:26 AM

Work Order ID: 75907 \*75907\*  
Parent Item: D412-742-043 \*D412-74  
Parent Item Name: Replacement Float Skidtube

Comments: IPP Rev A 05.10.13 New Issue KJ/JLM  
IPP Rev 06.02.13 ECN 773 dwg @ rev.D EC  
IPP Rev:C 07-05-28 As per Rev F JLM  
IPP Rev:D 07-12-04 ECN 1072 DD verified by:JLM  
IPP Rev:E 08-09-08 ecn 08-510 DD verified by:EC  
11.11.01 as per DSI9517 REV.B DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	La Lc
AN3C4A		Purchased	No		
*AN3C4A*					
BOLT					

- Location
- ST350
  - 1173
  - 1176
  - 1178
  - 1181
  - 1184
  - 1187
  - 1188
  - 1193

Work Order ID 75907

November-02-11 10:10:20 AM

\*75907\*

Item ID: D412-742-043 Accept \*N900040100\* Setup Start \*NS1\*  
Revision ID: Stop \*NS2\*  
Item Name: Replacement Float Skidtube  
Start Date: 01/11/2011 Start Qty: 1.00 \*1\* Cust Item ID:  
Required Date: 15/11/2011 Req'd Qty: 1.00 \*1\* Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start \*NR1\*  
QC: Date: SPC (Y/N): Date: Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	HandFinishing	0.00							
*110*	HandFinish								
Hand Finishing	Memo	0.00							
	1-Install tubes together and seal them all the way around using Sikaflex 241/291. Ensure tube ends line-up with saddle holes for proper alignment. using 7/16" "T" Pins. A/RSikaflex-241/-291 11119508 Expiry date: 12/02								
	2-Install wearplates as per Dwg D3391. Ensure that plastic washers are against wearplate, then topped with the SS washer. Seal all bolts with sikaflex except ones with inserts on inside of tube ,hand tighten only bolts with no sikaflex. A/RSikaflex-241/-291 11119508 Expiry date: 12/02								
	3-Remove "T" pins once sikaflex is dry.								
	4-Coat all exposed hardware with LPS Procyon. Remove any excess off with MEK degreaser. A/RLPS Procyon 11114596								

1 0 11 12/01/10

Dart Aerospace Ltd

W/O:		W
DATE	STEP	PROCEDURE CH

Part No: PAR #: Fault Cat  
Resolution: Dispositi

NCR:		WORK ORD	
DATE	STEP	Description of NC Section A	Initial
			Chief Eng

NOTE: Date & initial all entries

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: PAR #: Fault Category: NCR: Yes No DQA: Date:  
Resolution: Disposition: QA: N/C Closed: Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

November-02-11 10:10:26 AM

Page 2

Work Order ID: 75907

**\*75907\***

Parent Item: D412-742-043

**\*D412-742-043\***

Parent Item Name: Replacement Float Skidtube

Start Date: 01/11/2011

Required Date: 15/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C6A Purchased No

110 Each

276.0000 10

**\*AN3C6A\***

BOLT

\*\*

10810  
1119744 (x18) 11/10/10

Location

Loc Qty

Loc Code

FP-A

1

111982

1

ST350

100

119449

100

ST351

175

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

120

AN3C7A Purchased No

110 Each

131.0000 4

**\*AN3C7A\***

BOLT

\*\*

11/10/10

Location

Loc Qty

Loc Code

ST351

131

113149

14

116169

1

117313

10

117619

12

117688

18

118422

76

AN960C10L NAS1149C0332 Purchased No

110 Each

0.0000 38

**\*AN960C10I \***

washer

\*\*

11119736 (x38) 11/10/09

November-02-11 10:10:26 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12/01/10	HO	Replace (2x) AN36-6A bolts with (2x) AN36-4A bolts for proper fit. 14117749	HT	12/01/10	X2		

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November-02-11 10:10:26 AM

Page 3

Work Order ID: 75907

**\*75907\***

Parent Item: D412-742-043

**\*D412-742-043\***

Parent Item Name: Replacement Float Skidtube

Start Date: 01/11/2011

Required Date: 15/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3391-021

Manufactured

No

110

Each

0.0000

1

1

**\*D3391-021\***

Fwd Tube Assembly

D3391-023

Manufactured

No

110

Each

0.0000

1

1

**\*D3391-023\***

Mid Tube Assembly

D3391-025

Manufactured

No

110

Each

0.0000

1

1

**\*D3391-025\***

Aft Tube Assembly

D3564-5

Manufactured

No

110

Each

14.0000

1

1

**\*D3564-5\***

Wearshoe

\*\*

B71460 (x1) M 12/01/09

\*\*

B75956 (x1) M 12/01/09

\*\*

B77378 (x1) M 12/01/10

\*\*

B77737 (x1) M 12/01/09

D4095-045

P 12.01.10

Location

Loc Qty

Loc Code

FG

2

34806

2

FP19

12

73330

12

D3566-5

Manufactured

No

110

Each

34.0000

1

1

**\*D3566-5\***

Gasket

\*\*

N/A

N/A P 12.01.10

Location

Loc Qty

Loc Code

FP002

34

74387

12

75069

22

D4095-041

Manufactured

No

110

Each

10.0000

1

1

**\*D4095-041\***

Wearplate Assembly

\*\*

B77438 (x1) M 12/01/09

Location

Loc Qty

Loc Code

ST

10

74852

10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Page 4

Work Order ID: 75907

**\*75907\***

Parent Item: D412-742-043

**\*D412-742-043\***

Parent Item Name: Replacement Float Skidtube

Start Date: 01/11/2011

Required Date: 15/11/2011

Start Qty: 1.00

Required Qty: 1.00

D4095-043

Manufactured No

110 Each

10.0000 1 1

**\*D4095-043\***

Wearplate Assembly

\*\*

*B77437 (x1) 11/12/10*

Location

Loc Qty

Loc Code

ST

10

74853

10

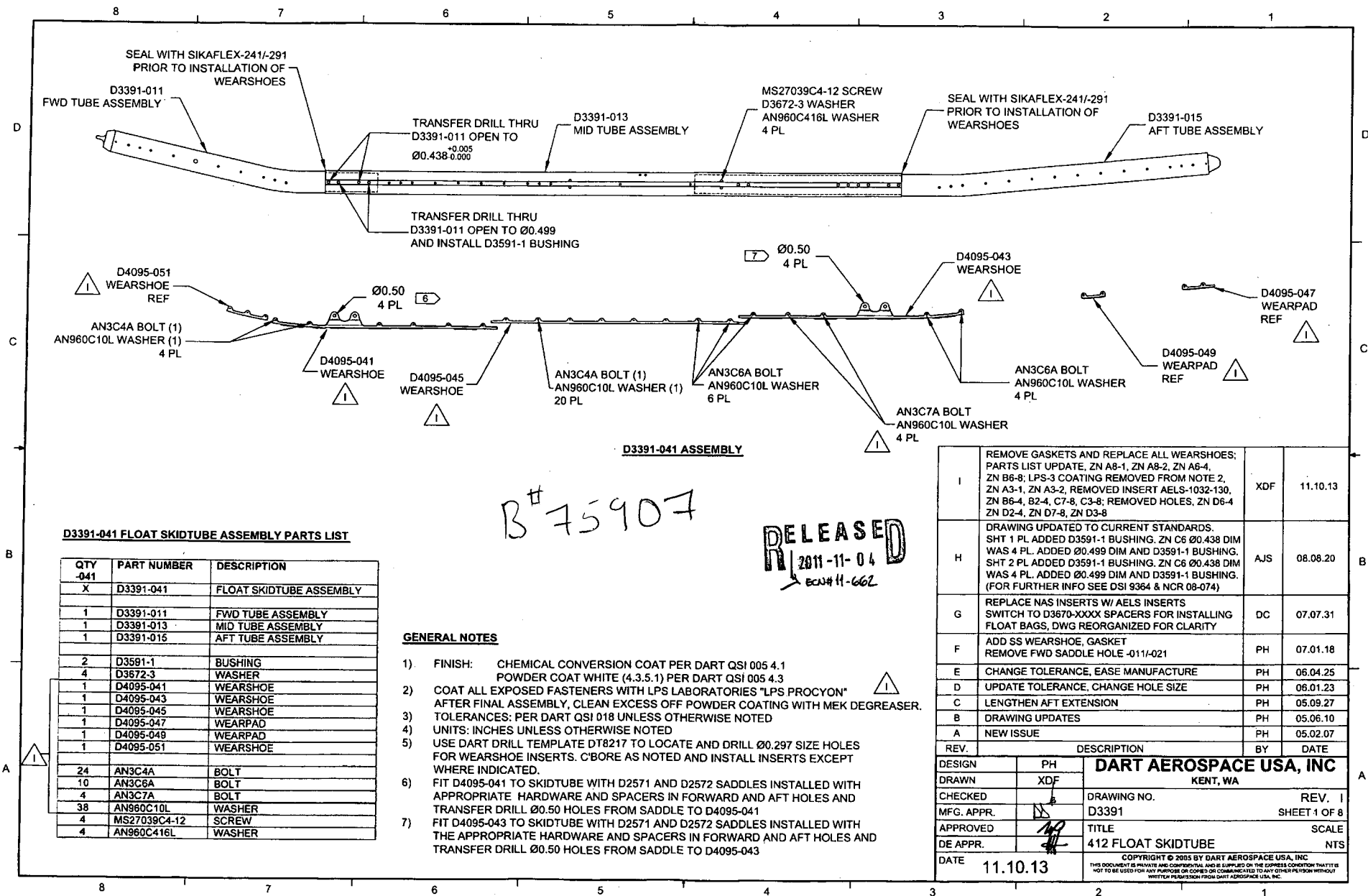
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



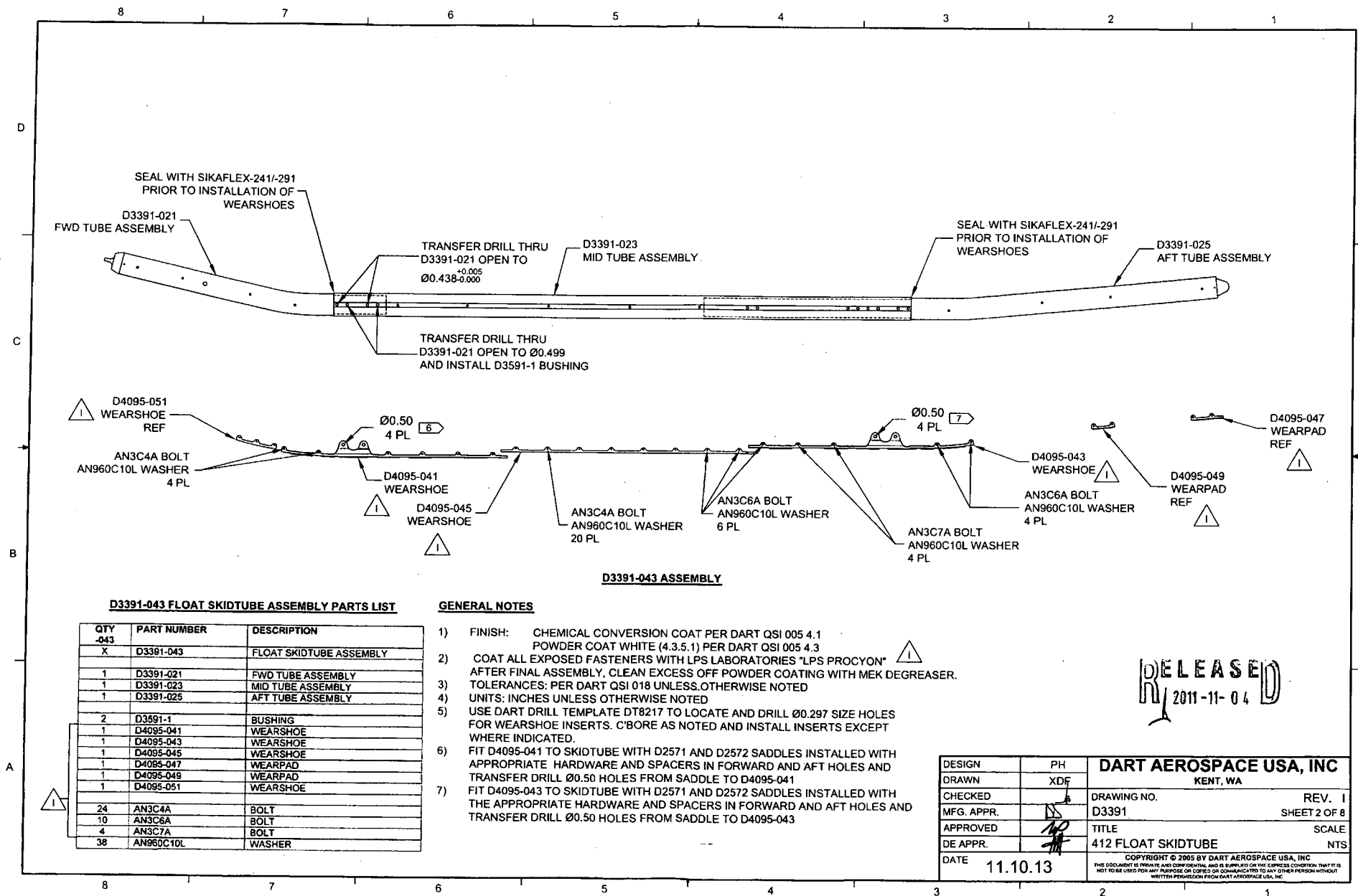
**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"  
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 0.297 SIZE HOLES  
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT  
WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH  
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND  
TRANSFER DRILL 0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH  
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND  
TRANSFER DRILL 0.50 HOLES FROM SADDLE TO D4095-043

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING, ZN C6 0.438 DIM WAS 4 PL ADDED 0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING, ZN C6 0.438 DIM WAS 4 PL ADDED 0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE USA, INC</b> KENT, WA	
DRAWN	XDF		
CHECKED		DRAWING NO.	REV. I
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMERCIALIZED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



8 7 6 5 4 3 2 1

D

D

C

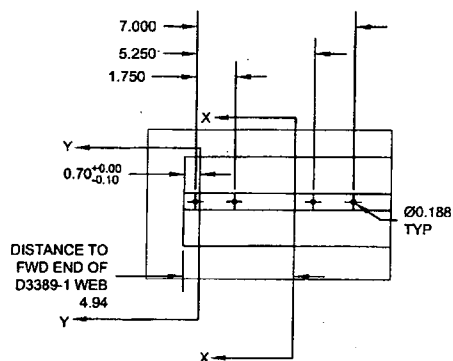
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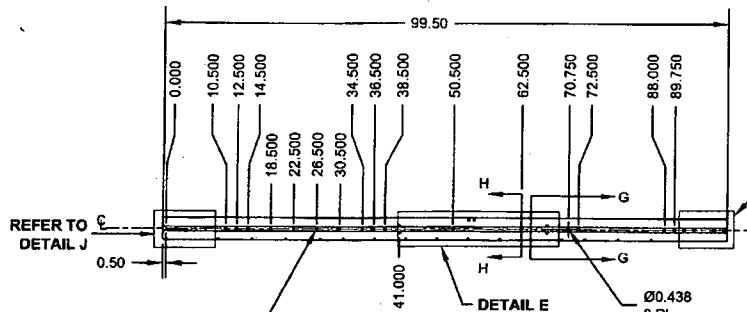
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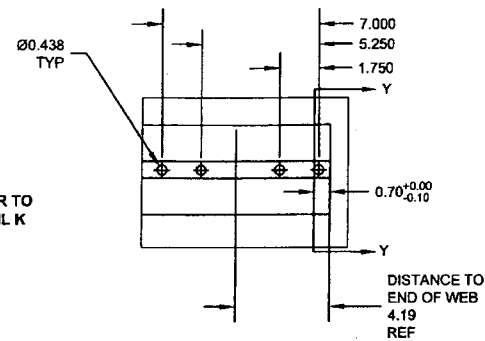
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**DETAIL J**  
SCALE 4X



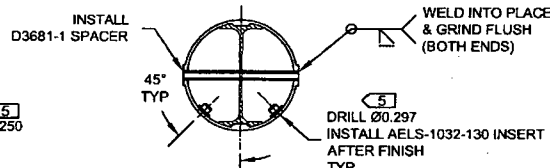
**D3391-013 ASSEMBLY DETAIL**  
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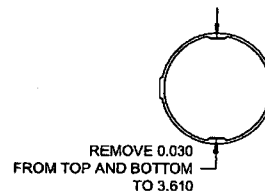
**DETAIL K**  
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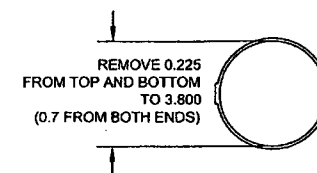
**SECTION G-G**  
SCALE 5X



**SECTION H-H**  
SCALE 5X



**SECTION X-X**  
SCALE 5X



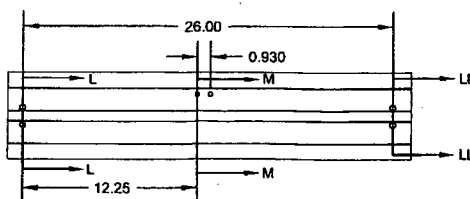
**SECTION Y-Y**  
SCALE 5X

**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
-013	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

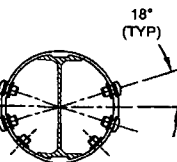
**D3391-013 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

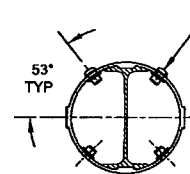


**DETAIL E**  
SCALE NONE

- 1) DRILL Ø0.391
- 2) INSTALL ALS4-428-165 INSERT
- 3) MS27039C4-08 SCREW
- 4) D3672-3 WASHER
- 5) AN960C416L WASHER
- 6) AFTER FINISH
- 7) 4 PL

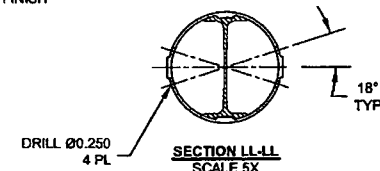


**SECTION L-L**  
SCALE 5X



**SECTION M-M**  
SCALE 5X

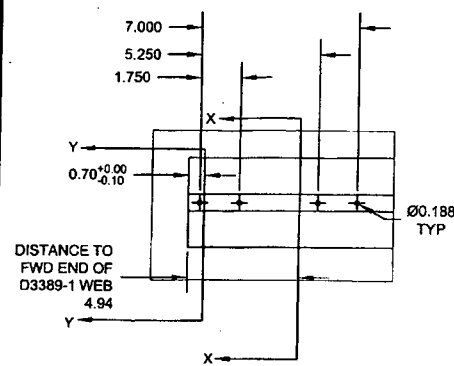
- 1) DRILL Ø0.297
- 2) INSTALL AELS-1032-130 INSERT
- 3) MS27039C1-09 SCREW
- 4) D3672-1 WASHER
- 5) AN960C10L WASHER
- 6) AFTER FINISH
- 7) 4 PL



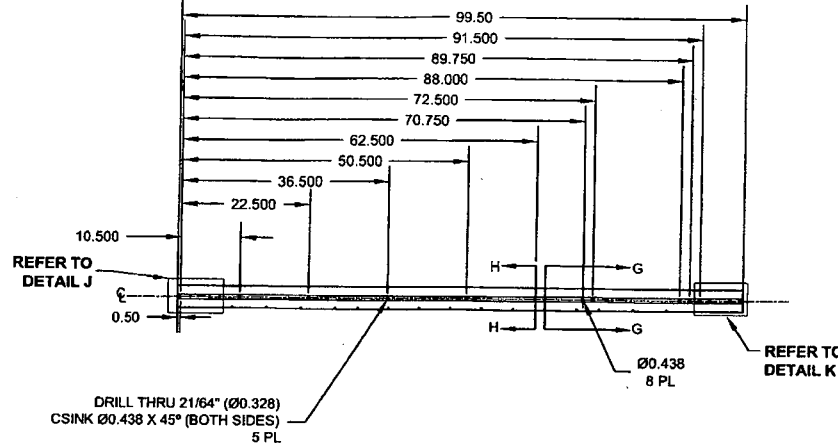
**SECTION LL-LL**  
SCALE 5X

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. I
MFG. APPR.		D3391	SHEET 5 OF 8
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DE APPR.		412 FLOAT SKIDTUBE	NTS
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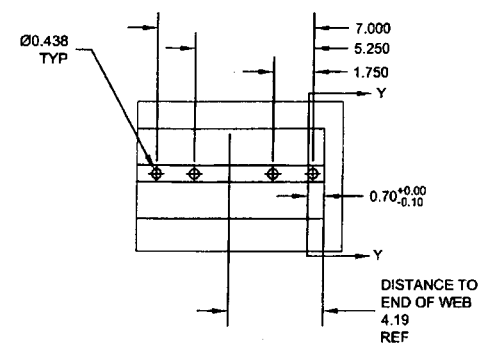
8 7 6 5 4 3 2 1



DETAIL J  
SCALE 4X



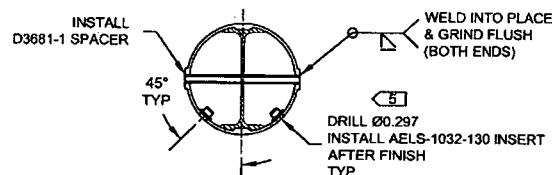
D3391-023 ASSEMBLY DETAIL



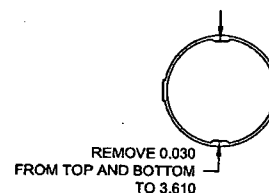
DETAIL K  
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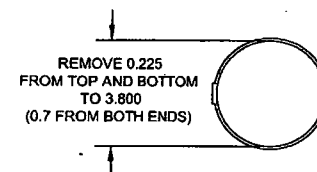
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

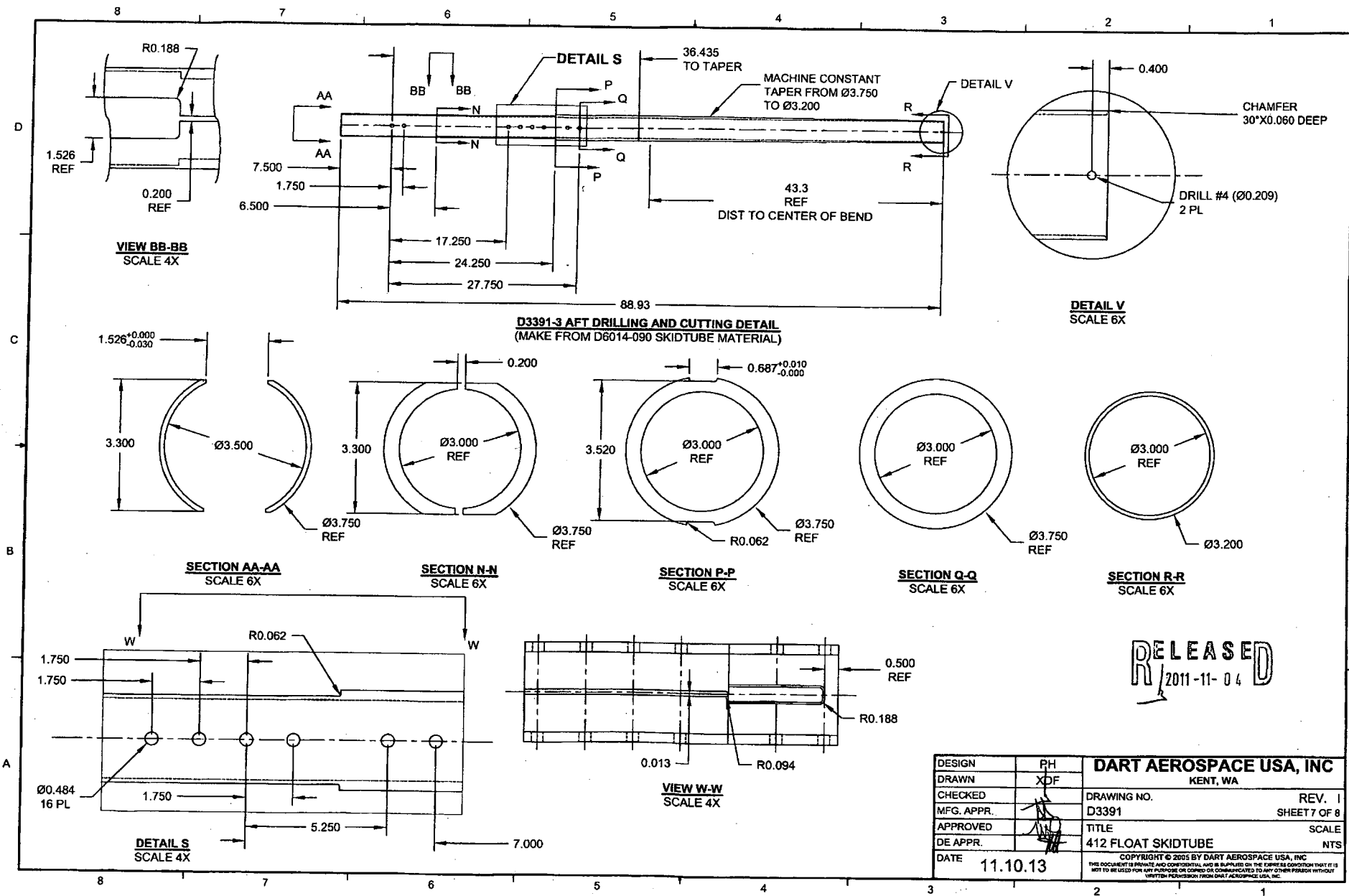
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

RELEASED  
2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. 1
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. 1
MFG. APPR.		D3391	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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